

REMARKS

Claims 1-30 are pending in the present application. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the Office Action of August 25, 2006, the following actions were taken:

- (1) claims 1-3, 5-9, 11-18, 20-24, and 26-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,624,484 (hereinafter "Takahashi") in view of U.S. Patent No. 4,281,999 (hereinafter "Becker");
- (2) claims 4 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi in view of Becker, and further in view of U.S. Patent No. 6,328,413 (hereinafter "Rutland"); and
- (3) claims 10 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi in view of Becker, and further in view of U.S. Patent No. 5,764,263 (hereinafter "Lin").

It is respectfully submitted that the presently pending claims be reconsidered and allowed.

Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 1-3, 5-9, 11-18, 20-24, and 26-30 under 35 U.S.C. § 103 over Takahashi in view of Becker, claims 4 and 19 over Takahashi in view of Becker and further in view of Rutland, and claims 10 and 25 over Takahashi in view of Becker and further in view of Lin. The Applicant respectfully submits that the presently pending claims are patentable over the cited references for the reasons set forth below, and that the rejection should be withdrawn.

Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing the prior art reference, or references combined, teach or suggest all the claim limitations in the instant application. Further, the Examiner has to establish some motivation or suggestion to combine and/or modify the references,

where the motivation must arise from the references themselves, or the knowledge generally available to one of ordinary skill in the art. And finally, the Examiner has to show a reasonable expectation of success in the prior art. The Applicant respectfully asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections.

The present invention is directed towards a system and method for ink-jet imaging. In accordance with embodiments of the claimed invention, this system allows for reduced nozzle clogging due to cross-contamination. The claims set forth a fluid dispensing system specifically designed for ink-jet printing comprising an ink-jet ink with from 0.1 wt% to 6 wt% of an anionic dye colorant and from 0.05 wt % to 1.0 wt % of an anionic dispersant polymer. The claims also set forth a fixer composition with a cationic crashing agent that is reactive with a component of the ink-jet ink. The fluid dispensing system can be configured for overprinting or underprinting the fixer composition with respect to the ink-jet ink. Claims are also drawn towards a method for ink-jet imaging including jetting an ink-jet ink from printing nozzles that includes an anionic dye colorant and an anionic dispersant polymer, and jetting a fixer composition from printing nozzles.

Takahashi discloses a liquid composition consisting of a cationic substance of polyallylamine and glycerol. The reference also teaches an ink-jet ink with an anionic dye colorant. Additionally, the steps of overprinting and underprinting with respect to an ink are disclosed. Takashi, however, does not teach or suggest including 0.05 wt% to 1.0 wt% of an anionic dispersant polymer. To remedy this deficiency, the Examiner has included the reference Becker. While Becker does teach “0.1 to 5 percent by weight of an anionic dispersing agent,” (a range which is much broader than that claimed by the Applicant), it does so in the context of dye preparations used for preparing printing pastes and for use in transfer printing. See abstract. The combination of Becker and Takahashi is improper in that there is no motivation to combine, and further, there is no expectation of success found in this combination. Furthermore, even if combined, the references do not teach each and every element of the claims. Specifically, the references together do not teach the ink-jet ink including from 0.1 wt% to 6 wt% anionic dye colorant and from 0.05 wt% to 1.0 wt% of an anionic dispersant polymer.

As mentioned, Becker teaches dye preparations in the context of printing pastes, and dyes used for transfer printing. Becker does not teach or infer the use of such preparations in the context of ink-jet printing. Rather, the dye preparations of Becker are used in “continuous dyeing of mixed fabrics made from polyester and cellulose material” (See col. 6, lines 61-62), “transfer printing” onto such items as “fleeces, felts, carpets” (See col. 7, lines 48-50), “preparing printing pastes” (See col. 1, line 8), and “dyeing textile materials” (See col. 1, line 11). As such, the preparations contain 25% to 60% dye, and preferably 35% to 50% dye. This type of preparation is far from the specialized and fairly developed field of ink-jet inks. These differences are significant because the compositions disclosed in Becker are not appropriate for use as ink-jet inks to which the present invention is directed. In fact, the compositions taught in Becker would not work well in, and may even harm, an ink-jet apparatus. This point is clear when reviewing Becker for purposes (e.g. pastes), as well as for dye composition content (e.g. high quantities of dye). Neither Takahashi nor Becker teach or suggest their respective compositions could be used in the other’s system, and neither reference suggests such modification. As such, the references were improperly combined for the present rejections.

Additionally, if the references were combined *arguendo*, there is no expectation of success. The Becker reference teaches the use of 0.1% to 5% of an anionic dispersing agent to disperse 25-60% of a difficultly water-soluble dye. Where ink-jet inks use much lower concentrations of dye, one skilled in the art would assume that proportionally less, or even no, dispersing agent would be needed to effectively disperse the lower concentrations of dye. To argue otherwise would be based on impermissible hindsight. On the other hand, the dye and dispersing agent of Becker could not be successfully ink-jetted. There is, thus, no expectation of success in the combination of the two references.

Further, the combination of Takahashi and Becker does not teach each and every element of the presently claimed invention. Specifically, the references do not teach an ink-jet ink including from 0.1 wt% to 6 wt% anionic dye colorant and from 0.05 wt% to 1.0 wt% of an anionic dispersant polymer. Both anionic dye colorant and anionic dispersant is claimed in the present case. As discussed previously, dispersants have been used in the prior art with pigment-based colorants. The present invention, however, requires an anionic dye colorant with an anionic dispersant polymer.

Takahashi does not teach an anionic dispersant. Becker does not teach from 0.1 wt% to 6 wt% anionic dye colorant in combination with an anionic dispersant polymer. The dye colorant in the compositions of Becker are in the range of from 25% to 60%, and ideally from 35% to 50%, which is clearly out of the range of the claimed invention. Becker identifies specific disperse and vat dyes that can be used in the compositions outlined in the patent, none of which are per say anionic dyes. Further, Becker clearly does not teach ink-jet ink. As discussed above, the inks of Becker are for purposes far removed from ink-jetting. Therefore, neither reference, alone nor in combination, teaches the claimed ink-jet ink including from 0.1 wt% to 6 wt% anionic dye colorant and from 0.05 wt% to 1.0 wt% of an anionic dispersant polymer.

A *prima facie* case of obviousness, therefore, has not been presented in the combination of Takahashi and Becker. The combination of references is improper as there is no motivation to combine the references, there is no expectation of successfully combining the references, and the combination does not teach each and every element of the claimed invention. As such, Applicant respectfully requests reconsideration and withdraw of the rejections.

The additional rejections are obviousness-type rejections based on the combination of Takahashi in view of Becker and further in view of another reference. As previously discussed, Takahashi and Becker do not teach each and every element, are improperly combined, and do not have an expectation of success. The combination does not present a *prima facie* case of obviousness. As the additional rejections are applicable to dependent claims, and as they rely on the Takahashi-Becker combination, unless the additional reference can remedy the deficiencies with the combination of Takahashi and Becker, the additional rejections fail for the same reasons as the rejections based solely on Takahashi and Becker.

The Examiner cited Rutland to remedy the Takahashi and Becker deficiency in claims 4 and 19 of a teaching of ink-jet printing nozzles and fixer printing nozzles configured in a proximity such that, upon jetting, small amounts of fixer composition aerosol jetted from the fixer printing nozzles contact the ink-jet ink printing nozzles, thereby resulting in the ink-jet printing nozzles being susceptible to cross-contamination by the fixer composition. Rutland does not remedy the deficiencies in the combination of Takahashi and Becker, as outlined above. Therefore, the

combination of Takahashi, Becker and Rutland does not present a *prima facie* case of obviousness, and withdrawal of the rejection is respectfully requested.

Likewise, the Examiner cited Lin to remedy a deficiency in a specific aspect found in claims 10 and 25. Lin does not remedy the deficiencies in the combination of Takahashi and Becker. Further, Lin does not teach the missing claim limitations, nor does it teach or infer motivation to combine Takahashi and Becker, or provide an expectation of success. Therefore, removal of the rejection is respectfully requested.

In view of the foregoing, Applicant believes that claims 1-30 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone W. Bradley Haymond (Registration No. 35,186) at (541) 715-0159 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 27th day of November, 2006.

Respectfully submitted,



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